

In the Claims:

A complete listing of claims in the instant application is provided below as follows:

- 1 1. (Currently amended) A An underwater power generator ~~for~~  
2 comprising:  
3 an underwater vessel ~~that transits~~ for navigating through a  
4 body of water in order to transit through an underwater  
5 thermocline having a temperature range, said ~~power generator~~  
6 ~~comprising:~~ underwater vessel including a shell;  
7 at least a portion of a said shell of ~~an~~ said underwater  
8 vessel made from a thermally conductive material, said portion  
9 having an outer surface in contact with ~~a surrounding underwater~~  
10 ~~environment~~ the body of water and an inner surface opposing said  
11 outer surface and not in contact with ~~said surrounding underwater~~  
12 ~~environment~~ the body of water;  
13 a plurality of thermo-to-electric energy converters  
14 electrically coupled together, each of said plurality of thermo-  
15 to-electric energy converters having a first surface and a second  
16 surface with said first surface being thermally coupled to said  
17 inner surface of said portion of said shell; and  
18 a phase change material thermally coupled to each said second  
19 surface of said plurality of thermo-to-electric energy converters,  
20 said phase change material having a phase change temperature that  
21 is approximately equal to an average of upper and lower  
22 temperature extremes of said temperature range of said underwater

23 thermocline, wherein said plurality of thermo-to-electric energy  
24 converters generate electrical power as ~~the~~ said underwater vessel  
25 navigates through the body of water so that said underwater vessel  
26 transits through said underwater thermocline.

1 2. (Currently amended) A An underwater power generator as in  
2 claim 1 wherein each of said plurality of thermo-to-electric  
3 energy converters is selected from the group consisting of bismuth  
4 telluride and bismuth telluride-antimony telluride.

1 3. (Currently amended) A An underwater power generator as in  
2 claim 1 wherein said phase change material is a paraffin wax.

1 4. (Currently amended) A An underwater power generator as in  
2 claim 3 wherein each of said plurality of thermo-to-electric  
3 energy converters is selected from the group consisting of bismuth  
4 telluride and bismuth telluride-antimony telluride.

1 5. (Currently amended) A An underwater power generator as in  
2 claim 1 further comprising a material structure having tubular  
3 passages formed therein and filled with said phase change  
4 material, said material structure positioned adjacent said  
5 plurality of thermo-to-electric energy converters.

1 6. (Currently amended) A An underwater power generator as in  
2 claim 5 wherein said phase change material is a paraffin wax.

1 7. (Currently amended) A An underwater power generator as in  
2 claim 6 wherein each of said plurality of thermo-to-electric  
3 energy converters is selected from the group consisting of bismuth  
4 telluride and bismuth telluride-antimony telluride.

1 8. (Currently amended) A An underwater power generator as in  
2 claim 1 wherein said plurality of thermo-to-electric energy  
3 converters are electrically coupled together in series.

1 9. (Currently amended) A An underwater power generator as in  
2 claim 1 wherein said plurality of thermo-to-electric energy  
3 converters are electrically coupled together in parallel.

Claims 10-14 (Canceled)

1 15. (Currently amended) A method of generating power ~~generation~~  
2 underwater comprising the steps of:

3       providing ~~an~~ a navigating underwater vessel in a body of  
4 water having an underwater thermocline, the underwater vessel  
5 having at least a portion of a shell thereof made from a thermally  
6 conductive material, said portion having an outer surface in  
7 contact with ~~a surrounding underwater environment~~ the body of  
8 water and an inner surface opposing said outer surface and not in  
9 contact with ~~said surrounding underwater environment~~ the body of  
10 water;

11       providing a plurality of thermo-to-electric energy converters  
12 electrically coupled together, each of said plurality of thermo-  
13 to-electric energy converters having a first surface and a second  
14 surface;

15       positioning said plurality of thermo-to-electric energy  
16 converters such that each said first surface is thermally coupled  
17 to said inner surface of said portion of said shell;

18       thermally coupling a phase change material to each said  
19 second surface of said plurality of thermo-to-electric energy  
20 converters, said phase change material having a phase change  
21 temperature that is approximately equal to an average of upper and  
22 lower temperature extremes of ~~said~~ a temperature range of said  
23 underwater thermocline; and

24 ~~transiting~~ navigating the underwater vessel through the body  
25 of water in order to transit said underwater thermocline, wherein  
26 said plurality of thermo-to-electric energy converters generate

27 electrical power.

1 16. (Currently amended) A method according to claim 15 further  
2 comprising the step of continuously repeating said step of  
3 ~~transiting~~ navigating.

1 17. (Original) A method according to claim 15 wherein each of  
2 said plurality of thermo-to-electric energy converters is selected  
3 from the group consisting of bismuth telluride and bismuth  
4 telluride-antimony telluride.

1 18. (Currently amended) A ~~power generator as in~~ method according  
2 to claim 15 wherein said phase change material is a paraffin wax.

1 19. (Original) A method according to claim 15 further comprising  
2 the steps of:

3 providing a material structure having tubular passages formed  
4 therein and filled with said phase change material; and  
5 positioning said material structure adjacent said plurality  
6 of thermo-to-electric energy converters.

1 20. (Original) A method according to claim 19 wherein said phase  
2 change material is a paraffin wax.

1 21. (Original) A method according to claim 20 wherein each of  
2 said plurality of thermo-to-electric energy converters is selected  
3 from the group consisting of bismuth telluride and bismuth  
4 telluride-antimony telluride.